# SANTA CRUZ BIOTECHNOLOGY, INC.

# DAP12 (A-8): sc-166085



## BACKGROUND

Natural killer (NK) cells are regulated by stimulatory and inhibitory signals from a variety of receptors. Three main receptor families are responsible for NK cells recognition of MHC I molecules, including Ly-49, CD94/NKG2 and KIR (killer-cell inhibitory receptor). DAP12 is a phosphoprotein that is involved in the activation of NK cells. This protein interacts with membrane glycoproteins of the KIR family, resulting in cellular activation. DAP12 also binds to CD94/NKG2C, an activating NK cell receptor belonging to the C-type lectin superfamily. Additional proteins that bind to DAP12 include Ly-49D and Ly-49H, which associate with DAP12 in the plasma membrane. Phosphorylated DAP12 binds to ZAP-70 and Syk, suggesting that the activation pathway may be similar to that of the T and B cell antigen receptors.

## REFERENCES

- 1. Lanier, L.L. 1998. NK cell receptors. Annu. Rev. Immunol. 16: 359-393.
- Lanier, L.L., et al. 1998. Association of DAP12 with activating CD94/ NKG2C NK cell receptors. Immunity 8: 693-701.

#### **CHROMOSOMAL LOCATION**

Genetic locus: TYROBP (human) mapping to 19q13.12; Tyrobp (mouse) mapping to 7 B1.

## SOURCE

DAP12 (A-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 76-112 at the C-terminus of DAP12 of human origin.

#### PRODUCT

Each vial contains 200  $\mu g$  IgG\_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-166085 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## **APPLICATIONS**

DAP12 (A-8) is recommended for detection of DAP12 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

DAP12 (A-8) is also recommended for detection of DAP12 in additional species, including canine.

Suitable for use as control antibody for DAP12 siRNA (h): sc-35172, DAP12 siRNA (m): sc-42854, DAP12 shRNA Plasmid (h): sc-35172-SH, DAP12 shRNA Plasmid (m): sc-42854-SH, DAP12 shRNA (h) Lentiviral Particles: sc-35172-V and DAP12 shRNA (m) Lentiviral Particles: sc-42854-V.

Molecular Weight of DAP12: 12 kDa.

Positive Controls: J774.A1 cell lysate: sc-3802, DAP12 (h2): 293T Lysate: sc-174294 or U-937 cell lysate: sc-2239.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA





DAP12 (A-8): sc-166085. Western blot analysis of DAP12 expression in untreated (**A**), PMA treated (**B**), Cholecalciferol treated (**C**) and PGE2 treated (**D**) THP-1 whole cell lysates. Detection reagent used: m-IgG<sub>2a</sub> BP-HRP: sc-542731. GAPDH (0411): sc-47724 used as loading control. Detection reagent used: m-IgG<sub>1</sub> BP-HRP sc-525408.

DAP12 (A-8): sc-166085. Western blot analysis of DAP12 expression in non-transfected: sc-117752 (A) and human DAP12 transfected: sc-174294 (B) 293T whole cell lysates.

#### SELECT PRODUCT CITATIONS

- Sunkaria, A., et al. 2016. Migration and phagocytic ability of activated microglia during post-natal development is mediated by calcium-dependent purinergic signalling. Mol. Neurobiol. 53: 944-954.
- Wei, R., et al. 2022. CSTA plays a role in osteoclast formation and bone resorption by mediating the DAP12/TREM2 pathway. Biochem. Biophys. Res. Commun. 627: 12-20.

#### **STORAGE**

Store at 4° C, \*\*D0 NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## **RESEARCH USE**

For research use only, not for use in diagnostic procedures.

#### PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.